

Systematic and Meta-Analytic Review Poster 742987

Established Indications and Benefits of Lower Limb Orthoses in Stroke Rehabilitation: Clinical Practice Guideline



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Objective(s): To create succinct, evidence-based clinical practice guidelines regarding the established benefits and indications for ankle foot orthoses (AFOs) in the lower limb management of stroke.

Data Sources: A systematic review of Pubmed, CINAHL and the Cochrane Database of Systematic Reviews was performed using the following search terms: ("Stroke" OR "Cerebral Vascular Accident") AND ("ankle foot orthosis" OR "Brace" OR "Splint") AND ("systematic review" OR "meta-analysis").

Study Selection: The original search yielded 76 abstracts. Four systematic reviews and meta-analyses met inclusion criteria. These reported upon an average of 14 trials (range, 10-20) inclusive of an average of 313 patients (range, 289-334). 2-5 Methodologic quality assessments were performed using the Cochrane Handbook for Systematic Review of Interventions, the Jadad scale and the PEDro scale.

Data Extraction: Explicit evidence statements and well-supported narrative statements were extracted from the identified source publications. Several statements were considered within the domains of comparative efficacy (AFO vs no-AFO) and potential benefits. These included gait velocity, independence, navigation of environmental terrains and transfers, observed kinematic variables, weight bearing symmetry and metabolic variables.

Data Synthesis: The following recommendations were synthesized from the extracted evidence statements:

Recommendation 1: AFO's are indicated to improve gait velocity and independence following a stroke.

Recommendation 2: AFO's are indicated to improve lower limb kinematics following a stroke, including increased dorsiflexion through both swing and stance and increased knee flexion through loading response.

Recommendation 3: AFOs are indicated to improve the loading of the affected extremity and decrease weight bearing asymmetry following a stroke.

Recommendation 4: AFOs are indicated to reduce the metabolic cost of ambulation following a stroke.

Conclusions: Several general indications and benefits of AFO's in stroke rehabilitation are supported by existing evidence.

Author(s) Disclosures: Authors employed by Hanger Clinic.

Key Words: Stroke, Ankle Foot Orthosis, Clinical Practice Guideline

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Internet-Delivered Cognitive Behaviour Therapy for Chronic Health Conditions: A Meta-Analysis



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Objective(s): The aim of this current research was to examine the effectiveness of internet delivered cognitive behavioural therapy (ICBT) on anxiety and depression among persons with chronic health conditions.

Data Sources: MEDLINE, CINAHL, PsycInfo, EMBASE, and Cochrane were searched for relevant studies published from 1990 to December 2017.

Study Selection: A study was included if the following criteria were met: 1) trial examined the use of ICBT; 2) sample experienced a chronic health condition; 3) participants > 18 years of age; and 4) trial reported the effects of ICBT on psychosocial outcomes (e.g., anxiety, depression, etc.).

Two independent reviewers assessed inclusion criteria. A third independent reviewer resolved any discrepancies.

Data Extraction: Twenty studies met inclusion criteria and investigated the following chronic health conditions: tinnitus (n=6), fibromyalgia (n=3), pain (n=6), rheumatoid arthritis (n=3), cardiovascular disease (n=1), and spinal cord injury (n=1). Pooled analysis was conducted on the primary and condition specific outcomes using the software package Comprehensive Meta-Analysis (version 3). The Cochrane Risk of Bias tool was used to assess the risk of bias on the included studies.

Data Synthesis: Pooled analysis demonstrated small effects of ICBT in improving anxiety (SDM=0.34±0.04, 0.26-0.42, p<.001) and depression (SDM=0.31±0.04, 0.22-0.40, p<.001). Sub-analyses of condition specific outcomes also demonstrated small to moderate effects. While ICBT produced similar effects as traditional face to face cognitive behaviour therapy; it was significantly more effective in improving primary outcomes compared to waiting-list and attention controls.

Conclusions: ICBT shows promise as an alternative to traditional therapeutic interventions among persons with chronic health conditions. Future research on long term effects of ICBT for individuals with chronic health conditions is warranted.

Author(s) Disclosures: No conflicts so interest to declare.

Key Words: Internet-Delivered Cognitive Behavioural Therapy, Chronic Conditions, Meta-Analysis

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Global Trends in Acquired Brain Injury Randomized Controlled Trials



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Objective(s): To compare published randomized controlled trials (RCTs) within the acquired brain injury (ABI) research literature by world region with respect to their number, sample size, and methodological quality.

Data Sources: A literature search was conducted using PubMed, PsycINFO, CINAHL, and EMBASE for RCTs evaluating any intervention for ABI, published in English up to December 2017.

Study Selection: Studies were included if participants had a moderate or severe ABI and comprised more than 50% of the study population, participants were adults (≥18 years), and there were three or more participants in the study sample.

Data Extraction: For each RCT, data on author, country of investigation, journal, sample size, year of publication, and methodological quality were extracted. Quality was assessed using the Physiotherapy Evidence Database (PEDro) tool.

Data Synthesis: A total of 334 studies were published between 1975 and 2017 of which 54.19% were from North America, 17.9% from East Asia and Pacific, and 21.2% from Europe and Central Asia. Overall mean study quality has slowly improved over time; Europe and East Asia and Pacific both show consistent increases in mean PEDro scores. Regions with longer RCT publication histories consistently reported higher sample sizes compared to regions without publications prior to 2000.

Conclusions: Despite the globalization of ABI research, the publication of RCTs varies largely between world groups, with North America dominating the literature to date. RCT quality has not improved over time, regardless of certain geographical regions improving their mean PEDro scores. Given the small number of trials in ABI compared to other neurological conditions, such as stroke, continuing efforts should focus on improving both the quality and quantity of research on a global scale.

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Key Words: ABI, Rehabilitation, Randomized Control Trial